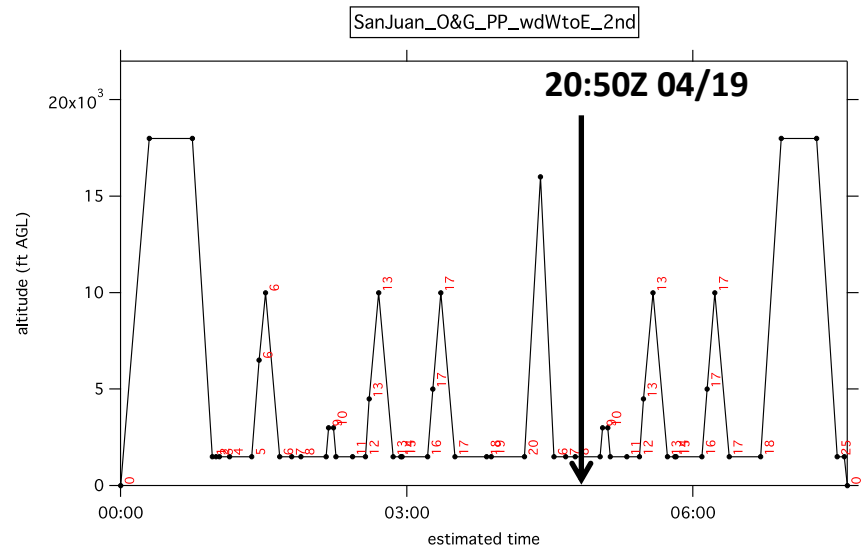
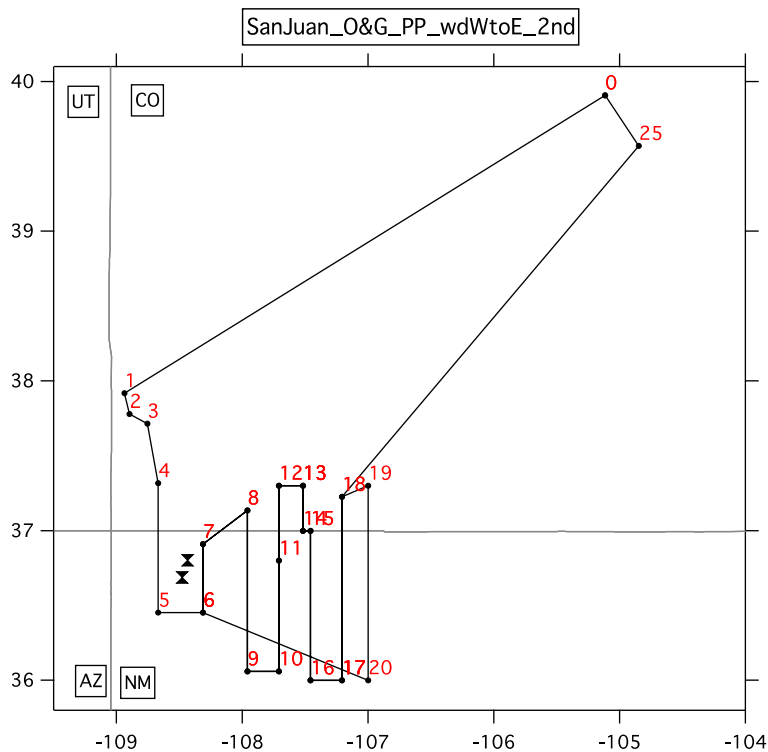


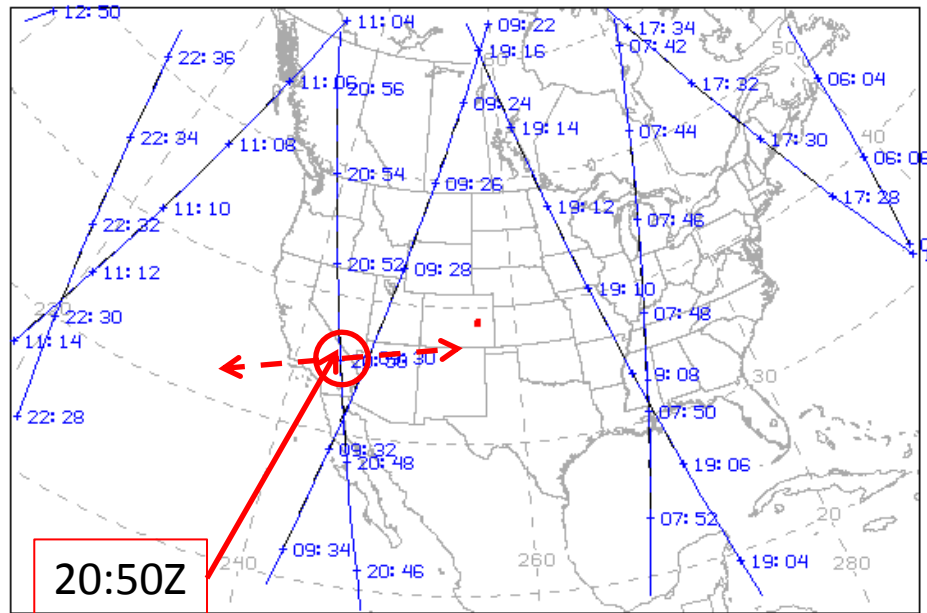
RAQMS 20150419 SONGNEX

30hr FX for 18Z April 19 (San Juan Basin), 54hr FX for April 20
(Oklahoma), 2015

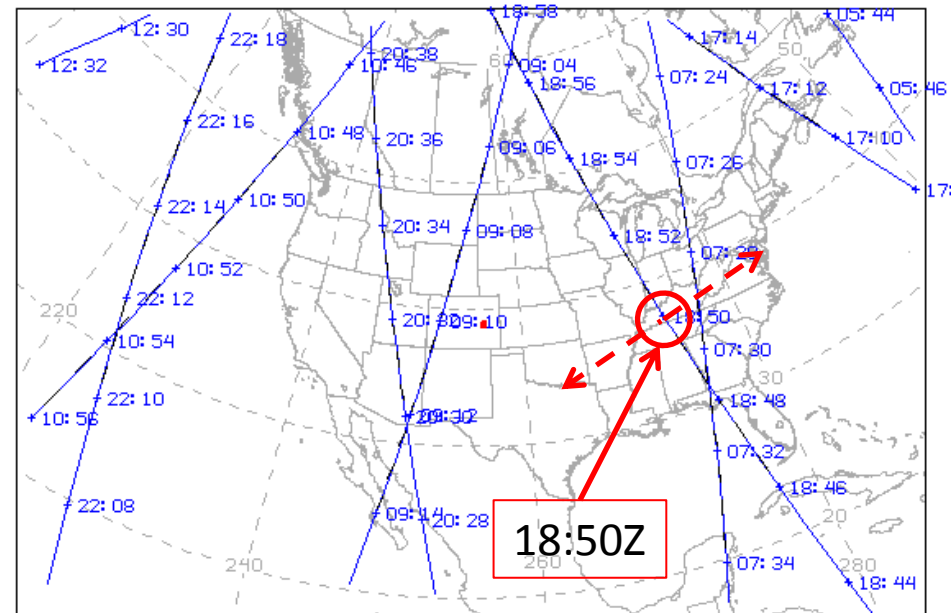


Assuming 10:00am Mountain Take-off

S-NPP (CrIS) overpass on 2015/04/19 and 2015/04/20
 NUCAPS CO₂, O₃, CO, CH₄ Validation Opportunity
Eastern (19) Western (20) swath edge



NPP 2015/04/19 UTC NPP ORBITAL PREDICT PLOT EPOCH DATE: Apr-16-2015
 lat: 39.749 lon: 255.011 res: 24 km



NPP 2015/04/20 UTC NPP ORBITAL PREDICT PLOT EPOCH DATE: Apr-16-2015
 lat: 39.749 lon: 255.011 res: 24 km

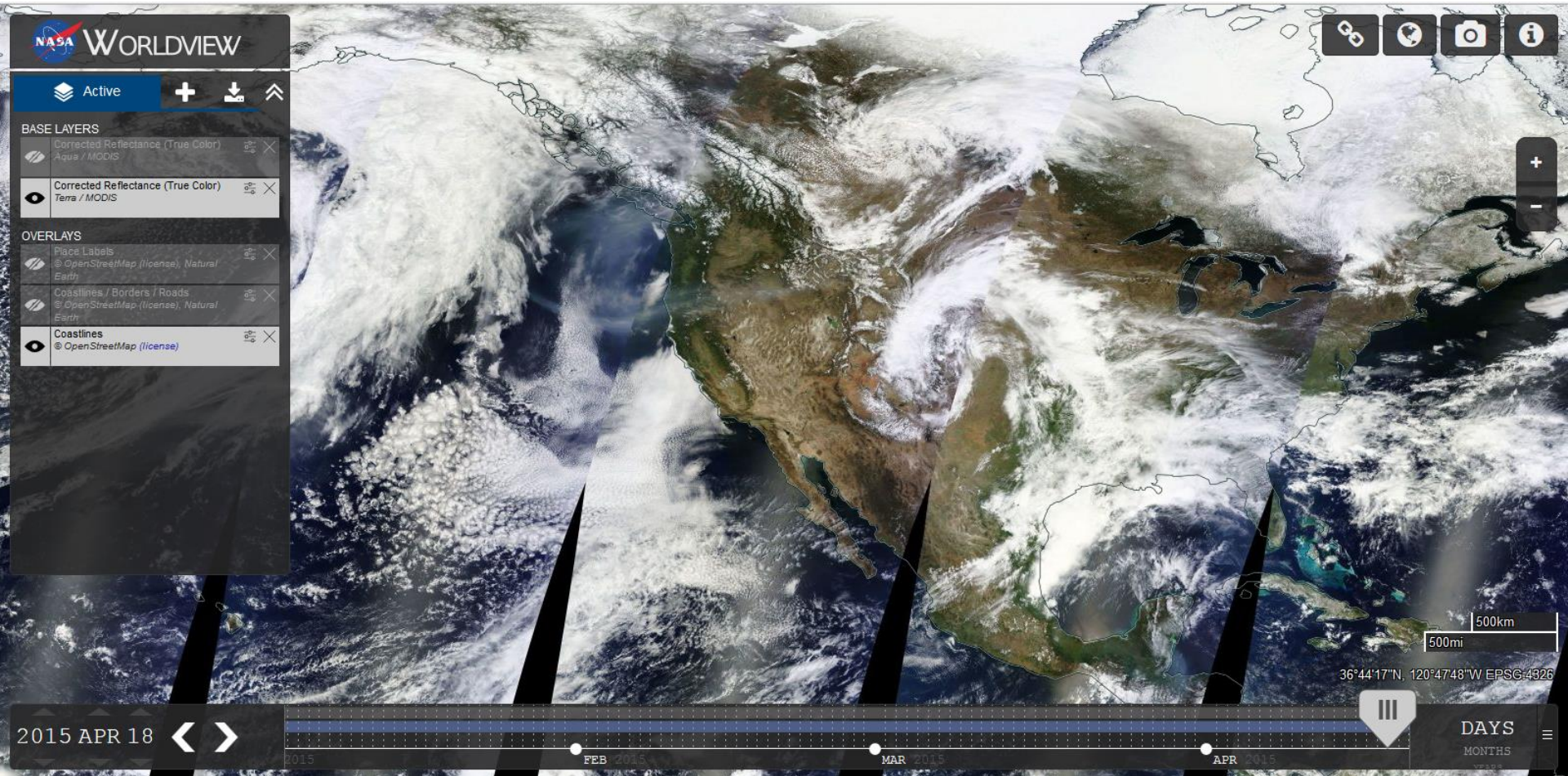
Approximate swath width

NESDIS Hazard Mapping System (HMS)

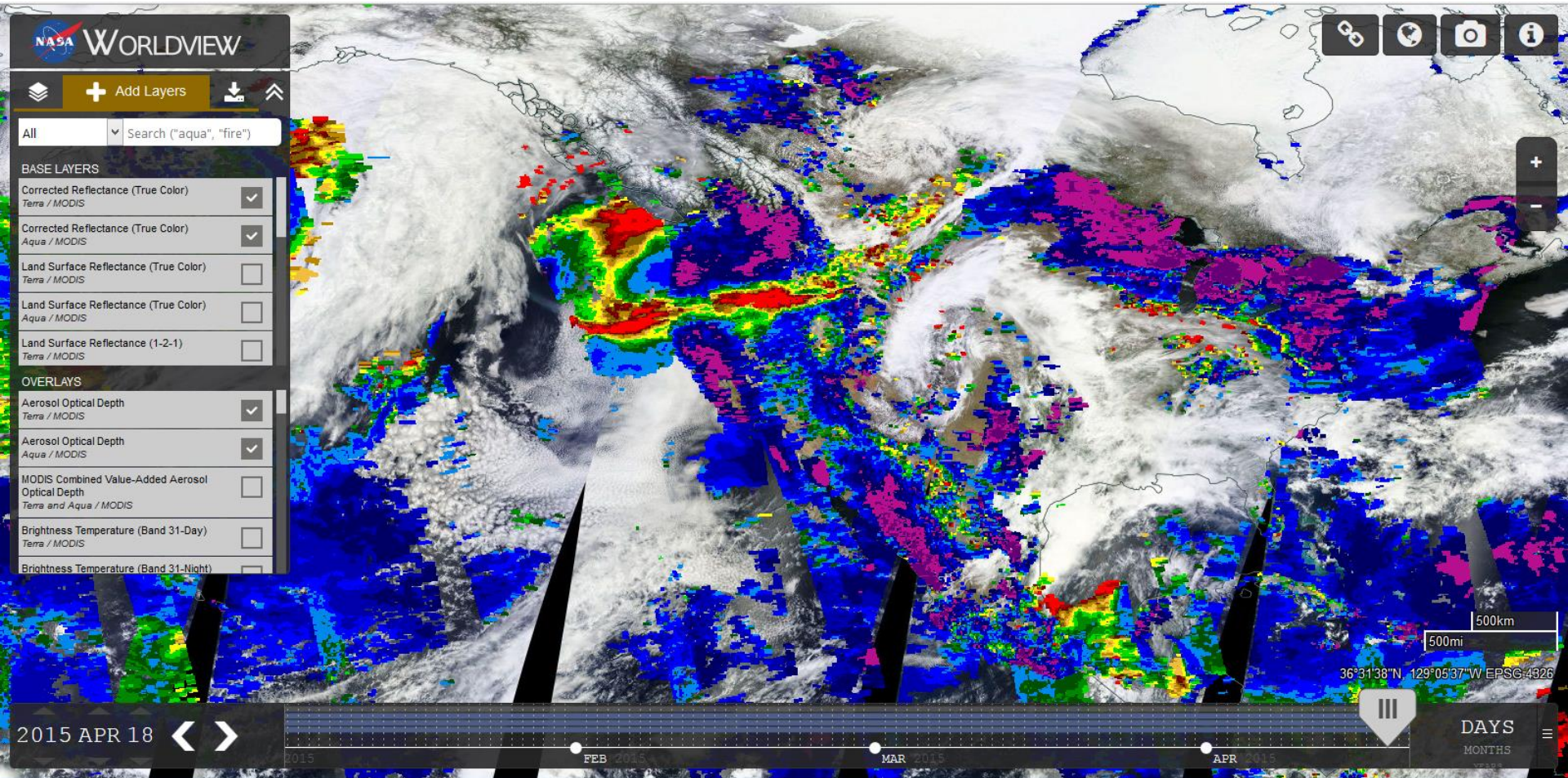
<http://www.ospo.noaa.gov/data/land/fire/currenthms.jpg>



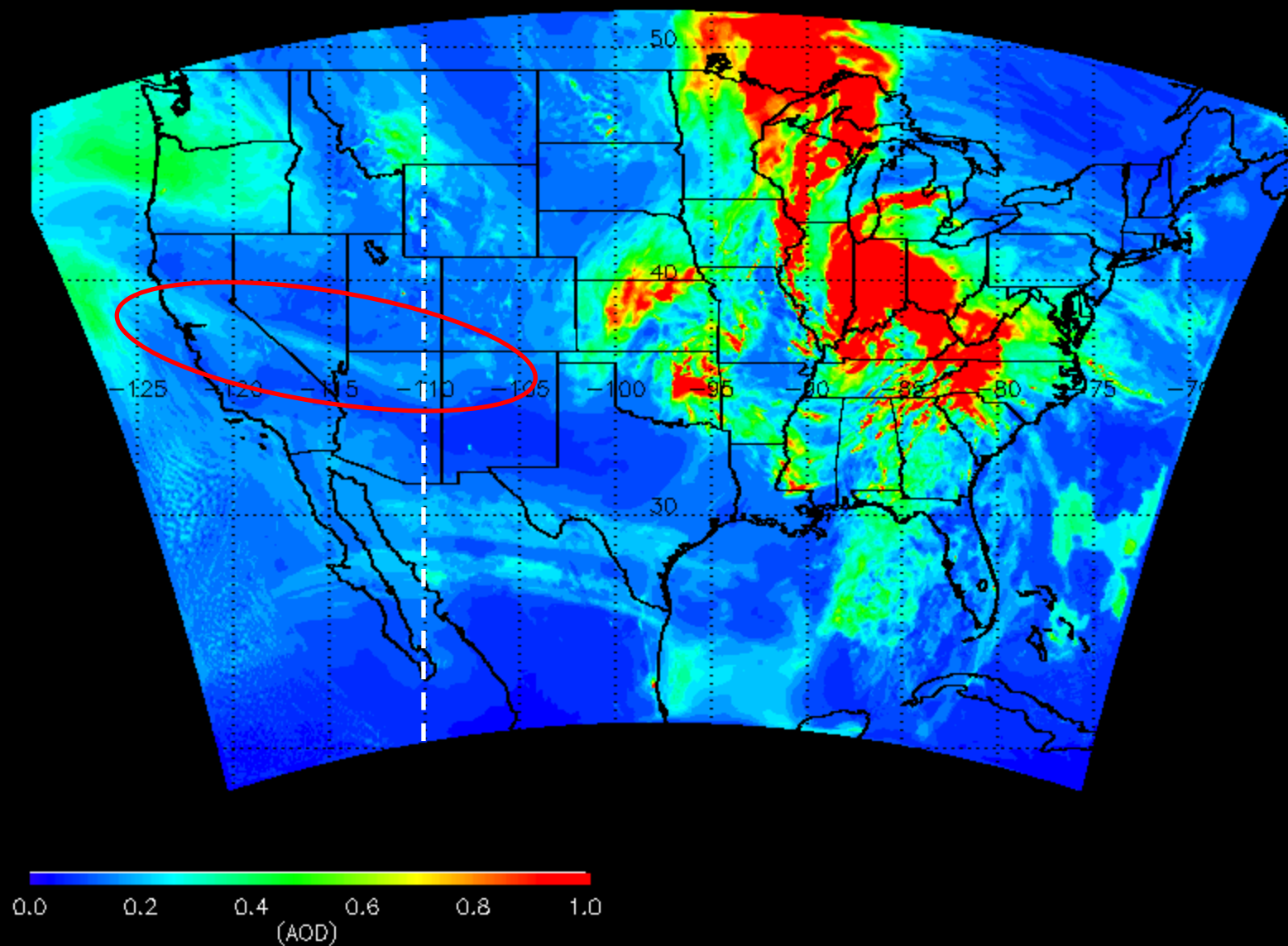
MODIS True Color image shows smoke over Northern California yesterday



MODIS AOD shows heavy smoke over Northern California yesterday

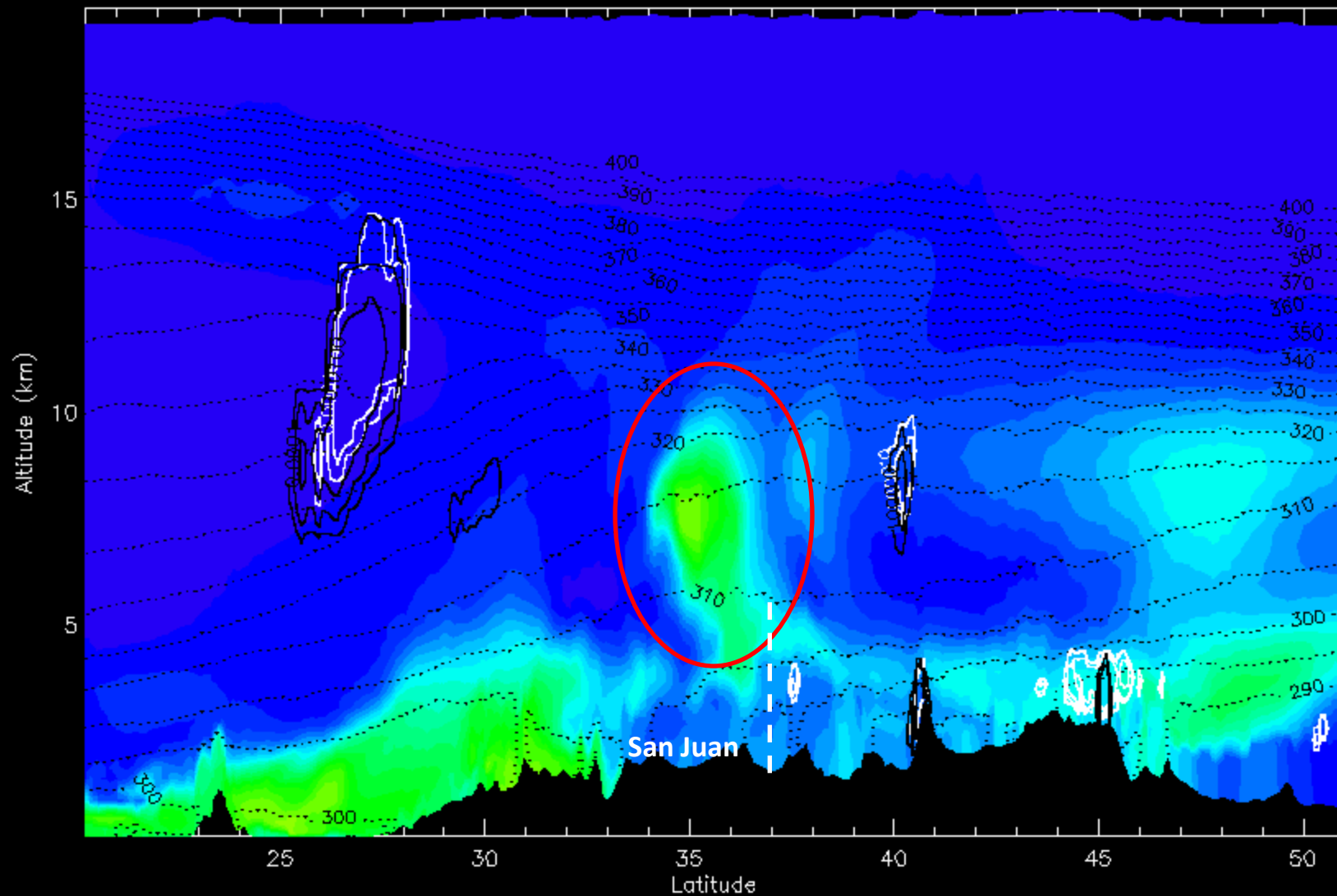


CIMSS 8km WRF-CHEM (RAQMS IC/BC) AOD 18Z 20150419

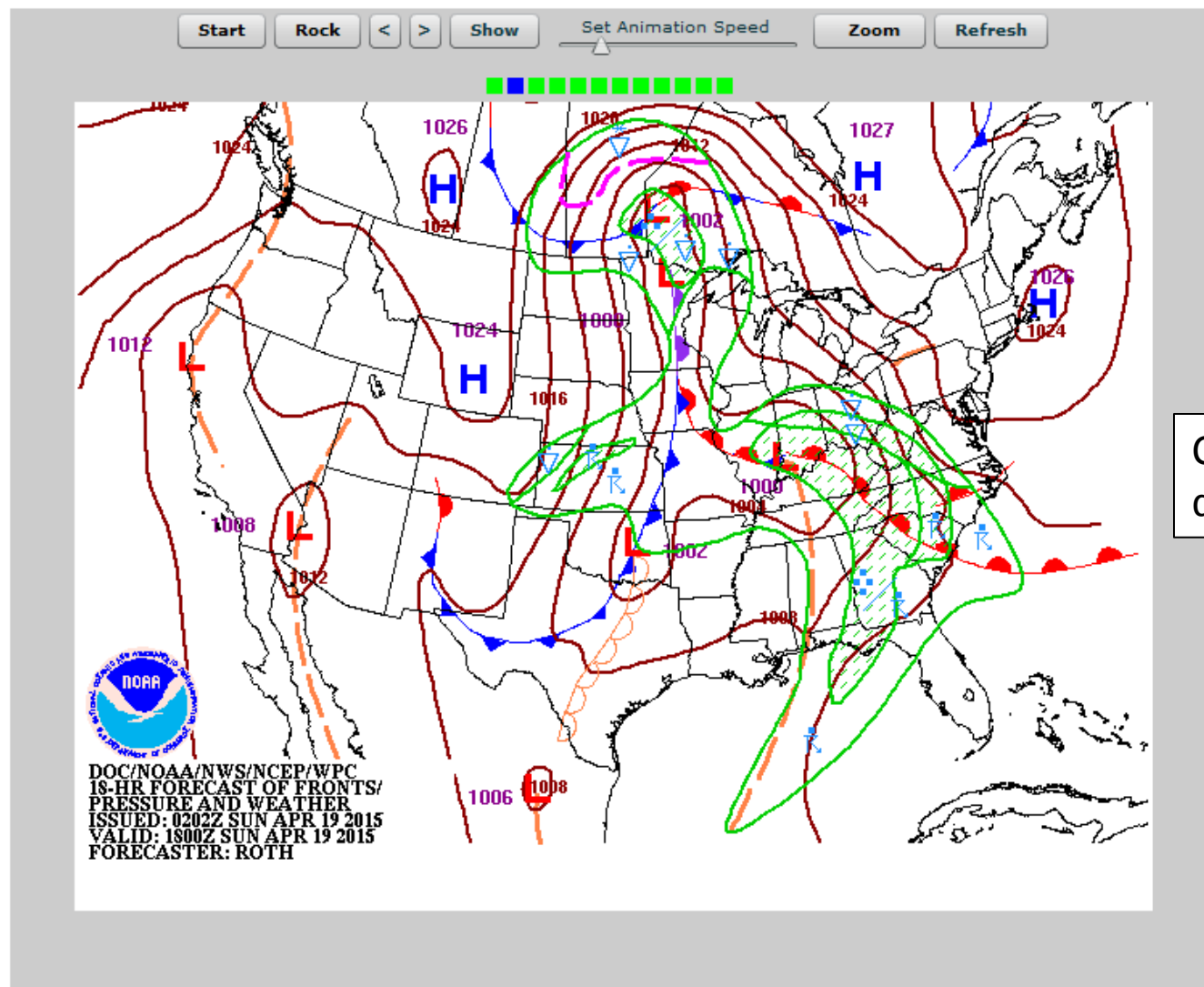


WRF-CHEM 18hr Fx Initialized 00Z 20150419

110W CIMSS 8km WRF-CHEM (RAQMS IC/BC) PM10 18Z 20150419
Clouds (white)/Precip (black)/Potential Temperature (dashed)



36hr NCEP/WPC forecast valid 12Z 04/19/2015

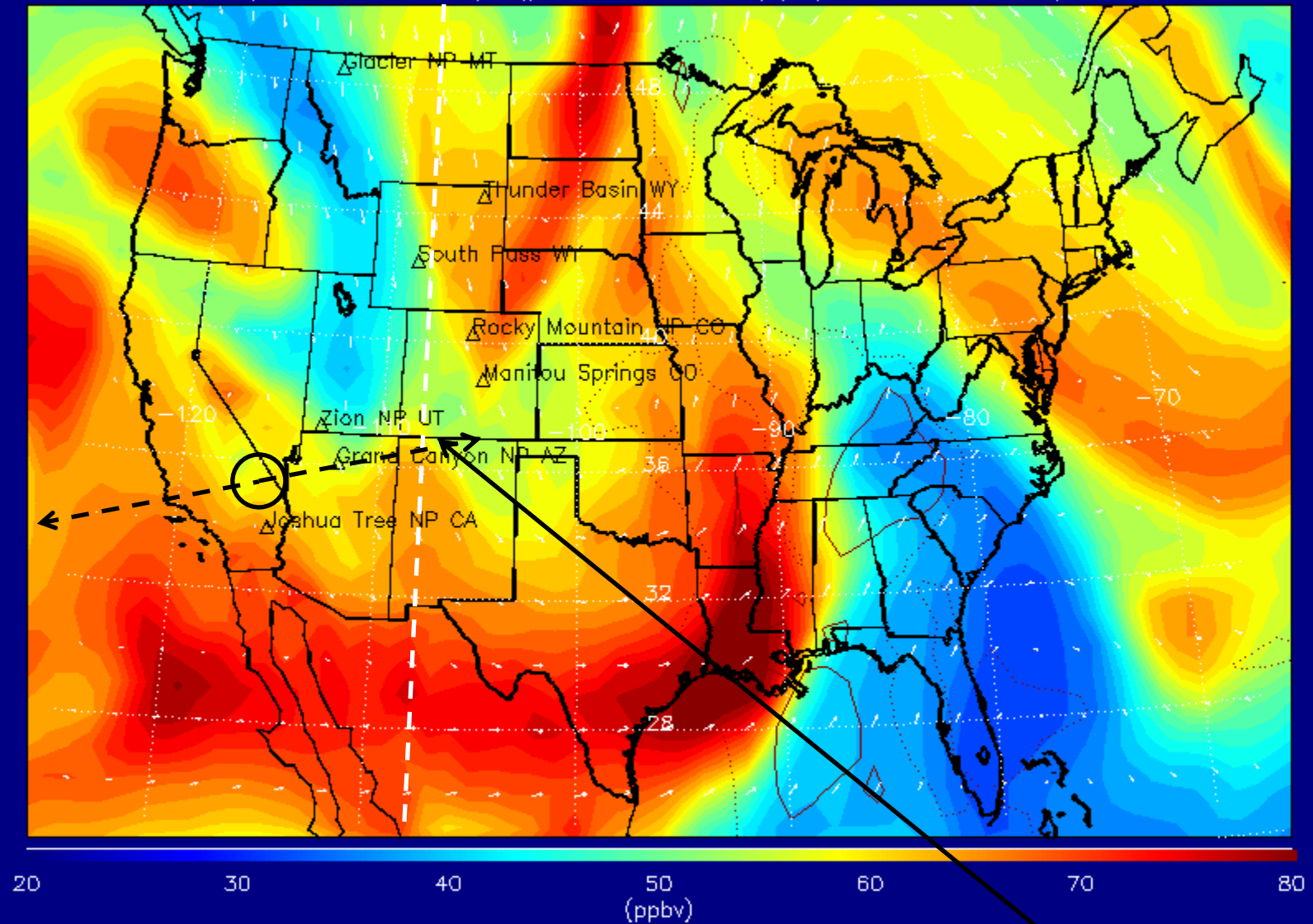


Cut-off low
drifts to East –

<http://www.hpc.ncep.noaa.gov/basicwx/day0-7loop.html>

05km O₃ 18Z 20150419

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CFCP=0.236145 mm/hr



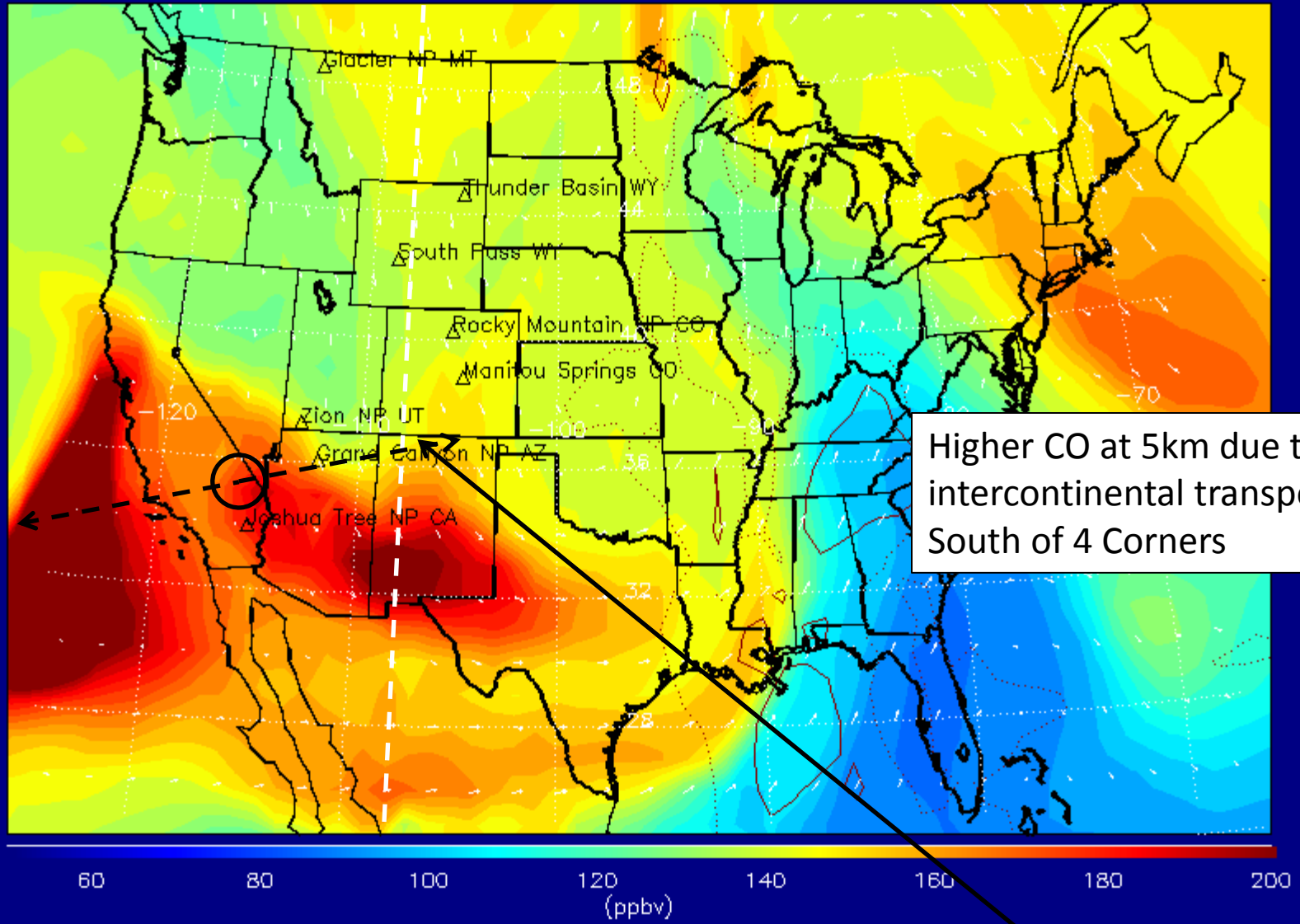
RAQMS₀ 30hr Fx Initialized 12Z 20150418

San Juan Basin on eastern edge of swath

Approximate swath width

05km CO 18Z 20150419

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPCP=0.236145 mm/hr



Higher CO at 5km due to intercontinental transport South of 4 Corners

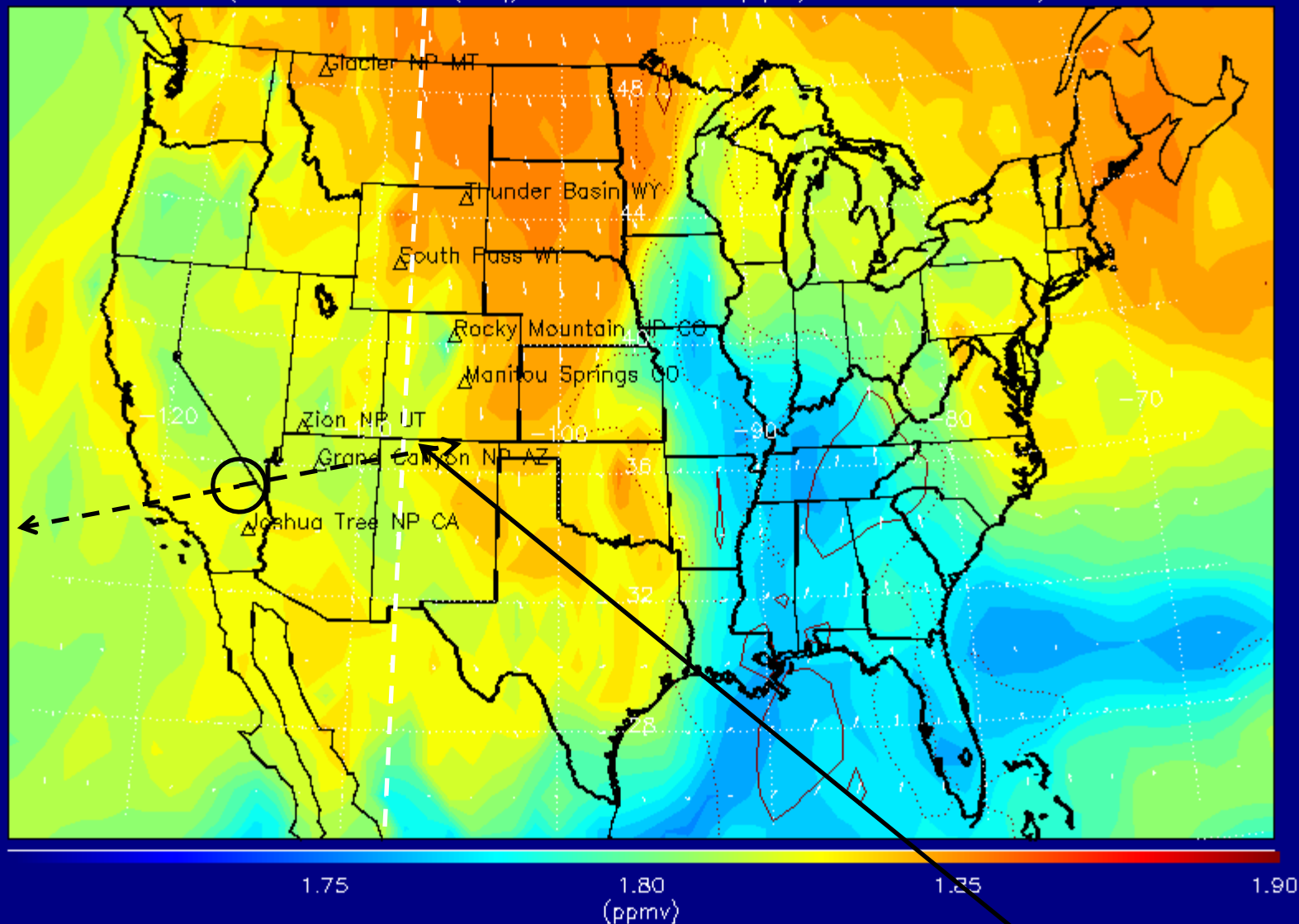
RAQMS₆ 30hr Fx Initialized 12Z 20150418

San Juan Basin on eastern edge of swath

Approximate swath width

01km AGL CH₄ 18Z 20150419

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPCP=0.236145 mm/hr

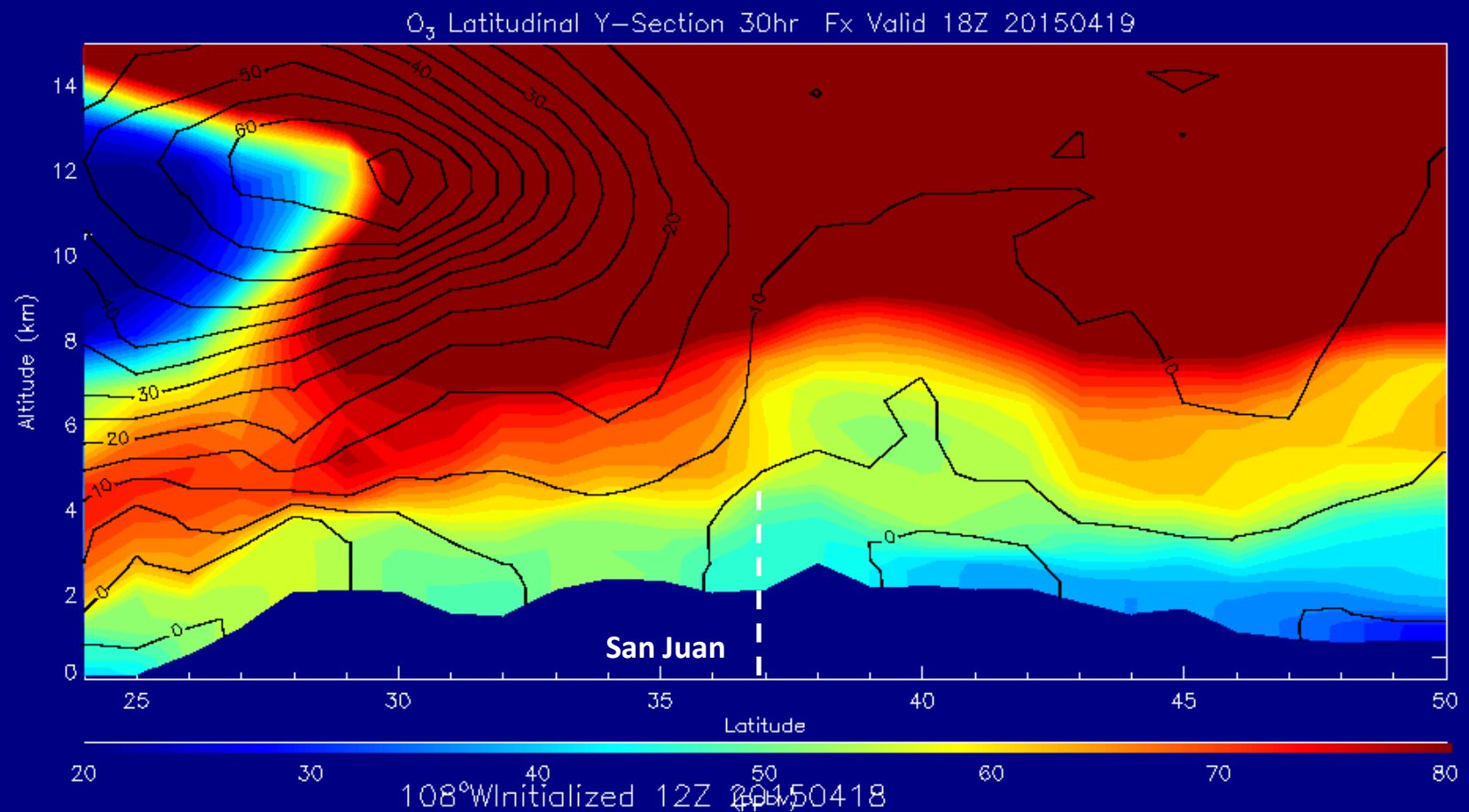


RAQMS₆ 30hr Fx Initialized 12Z 20150418

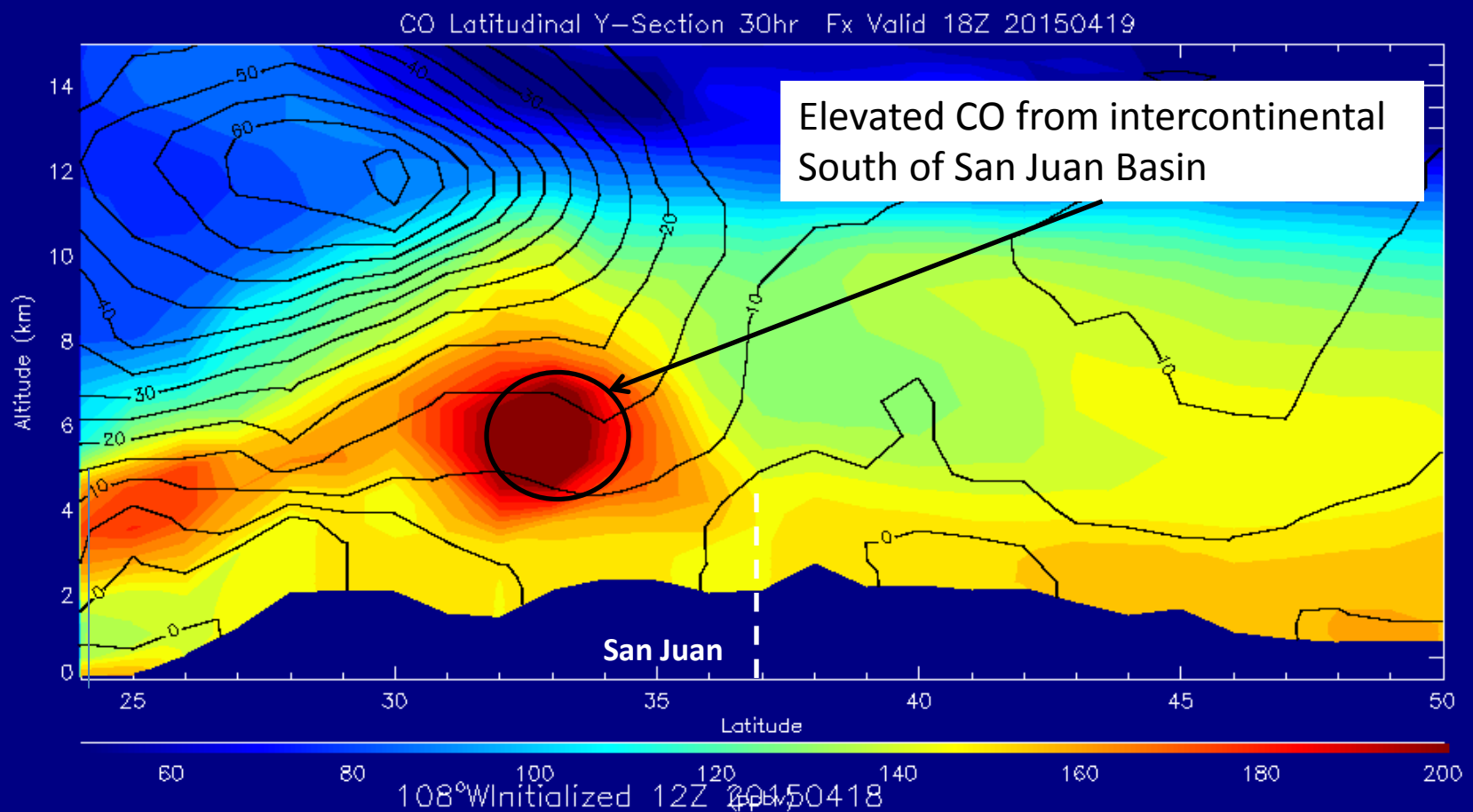
San Juan Basin on eastern edge of swath

RAQMS surface CH₄ constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

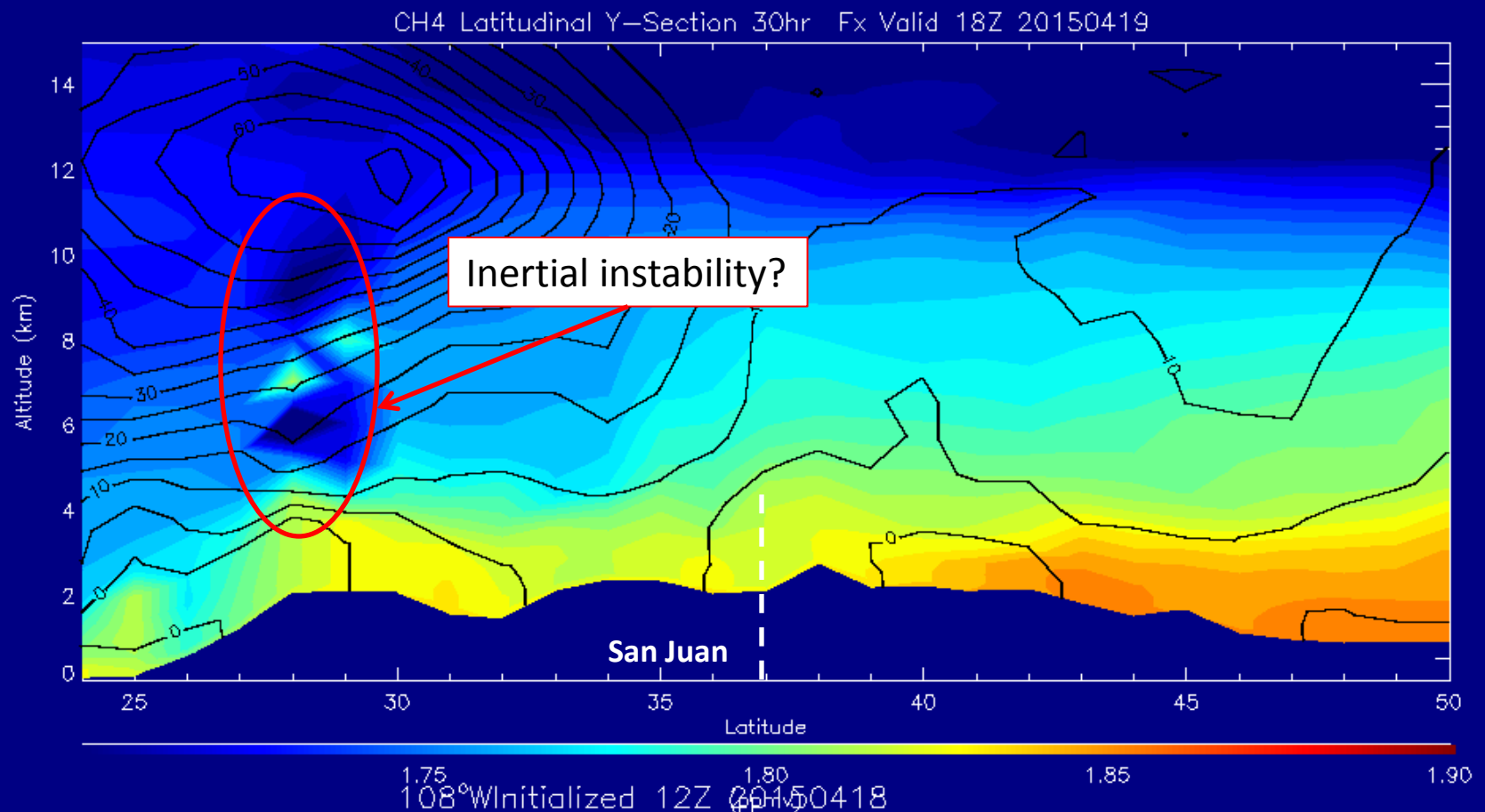
RAQMS 30hr FX O₃ Cross-section at 108W
(San Juan Basin)



RAQMS 30hr FX CO Cross-section at 108W (San Juan Basin)

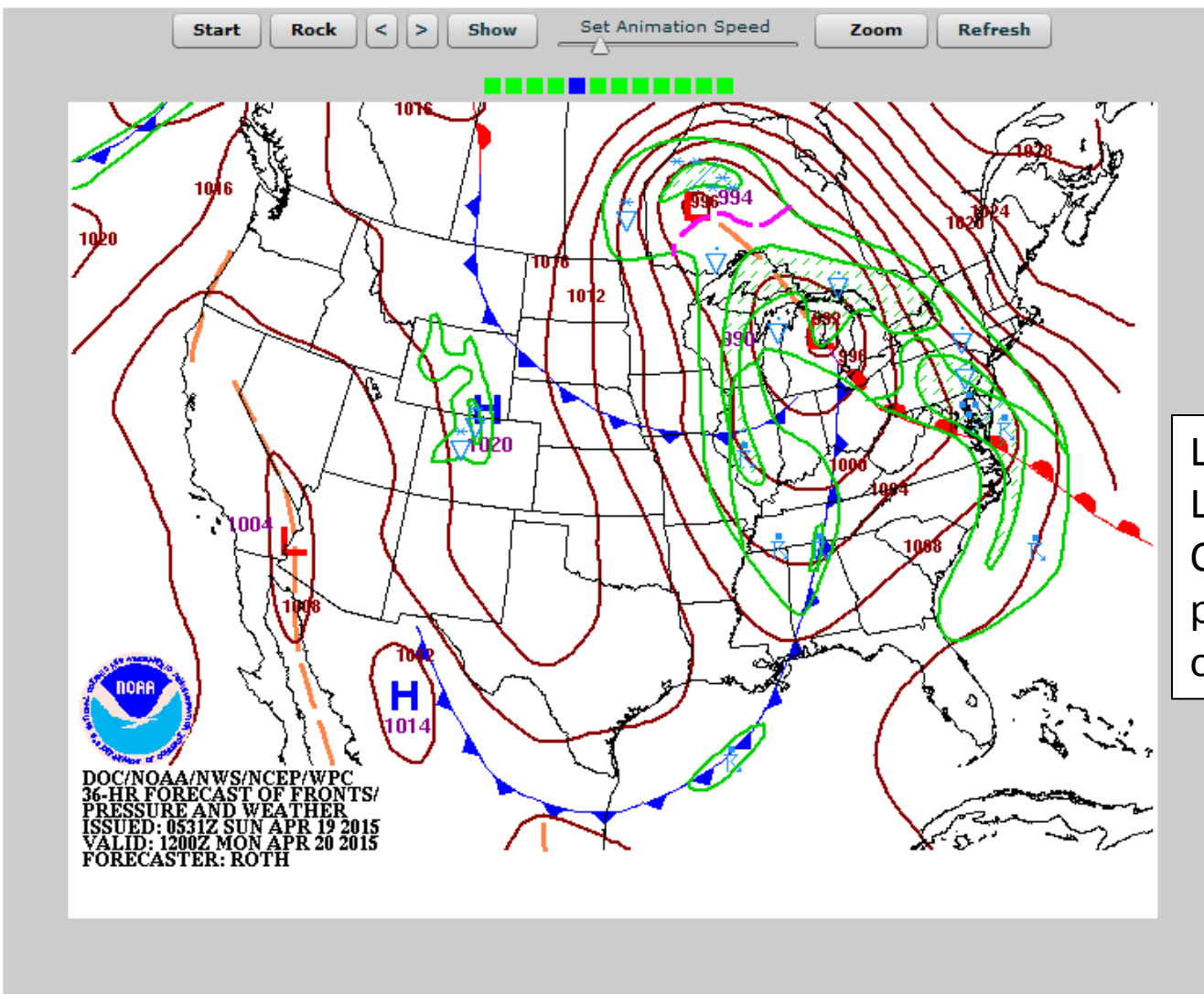


RAQMS 30hr FX CH₄ Cross-section at 108W (San Juan Basin)



RAQMS surface CH₄ constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

36hr NCEP/WPC forecast valid 12Z 04/20/2015

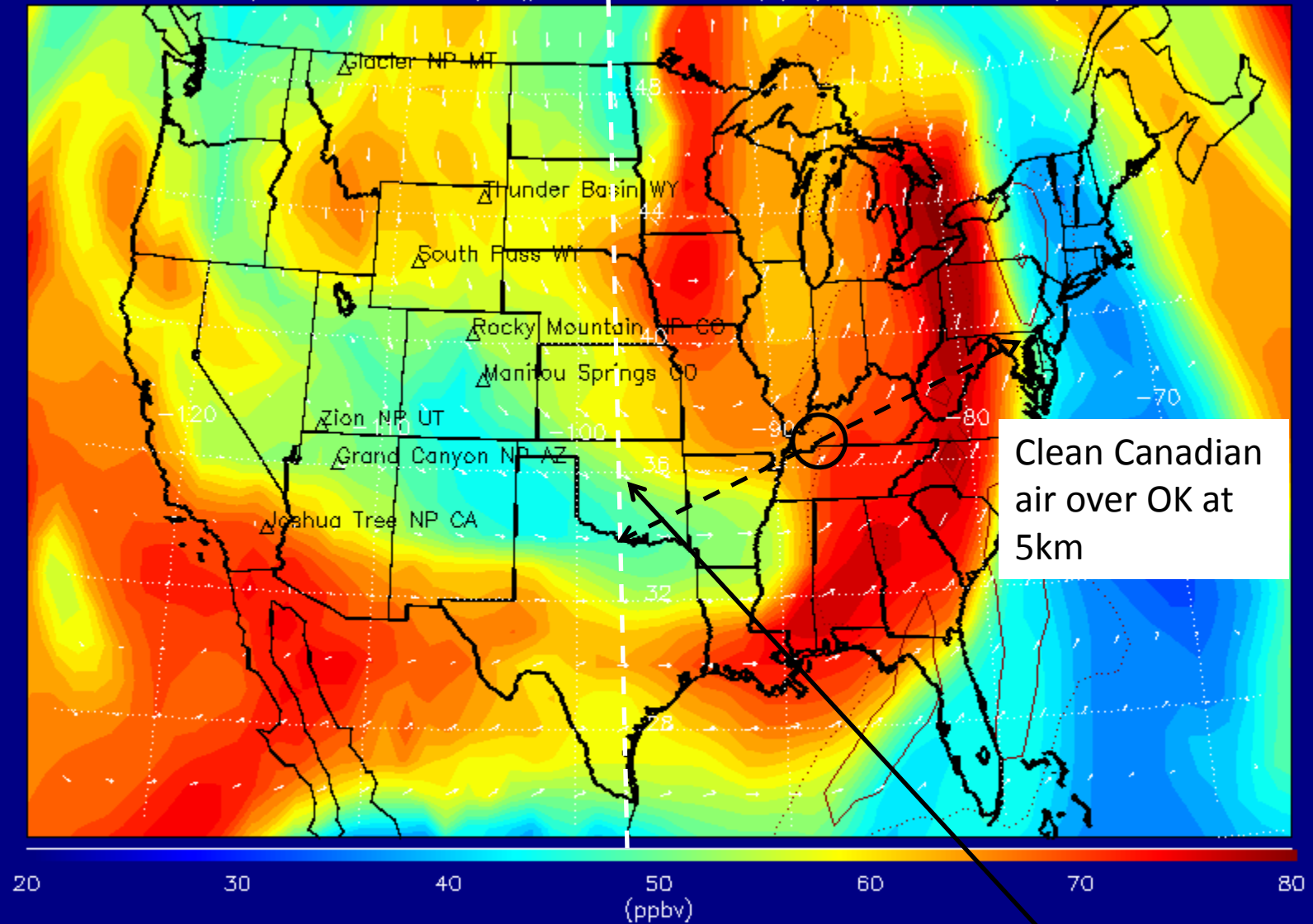


Low over Great
Lakes Region –
Cold front
pushed south
over Gulf

<http://www.hpc.ncep.noaa.gov/basicwx/day0-7loop.html>

05km O₃ 18Z 20150420

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPCP=0.217163 mm/hr



Clean Canadian
air over OK at
5km

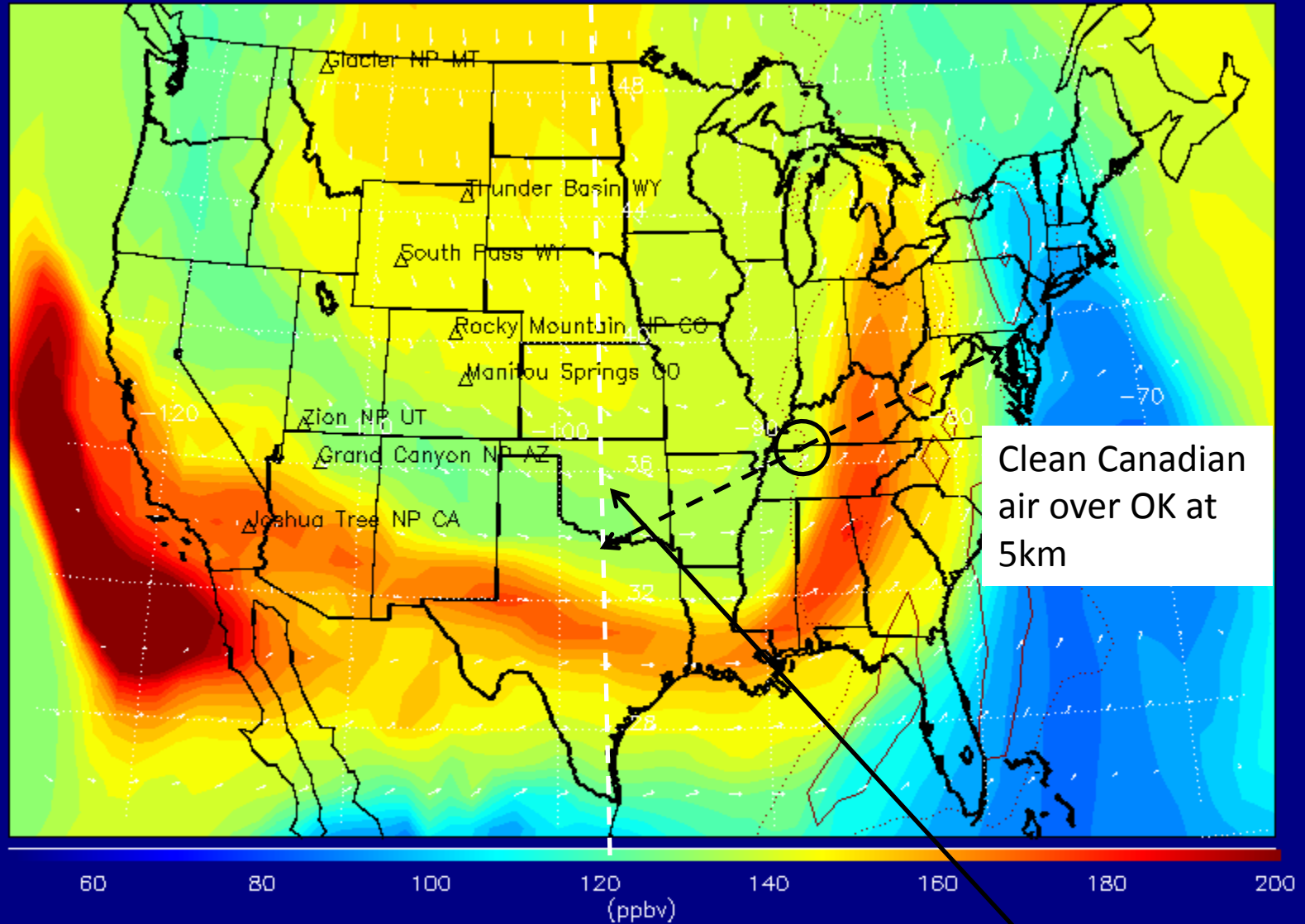
RAQMS₀ 54hr Fx Initialized 12Z 20150418

Cushing Oklahoma on western edge of swath

Approximate swath width

05km CO 18Z 20150420

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPDP=0.217163 mm/hr



Clean Canadian air over OK at 5km

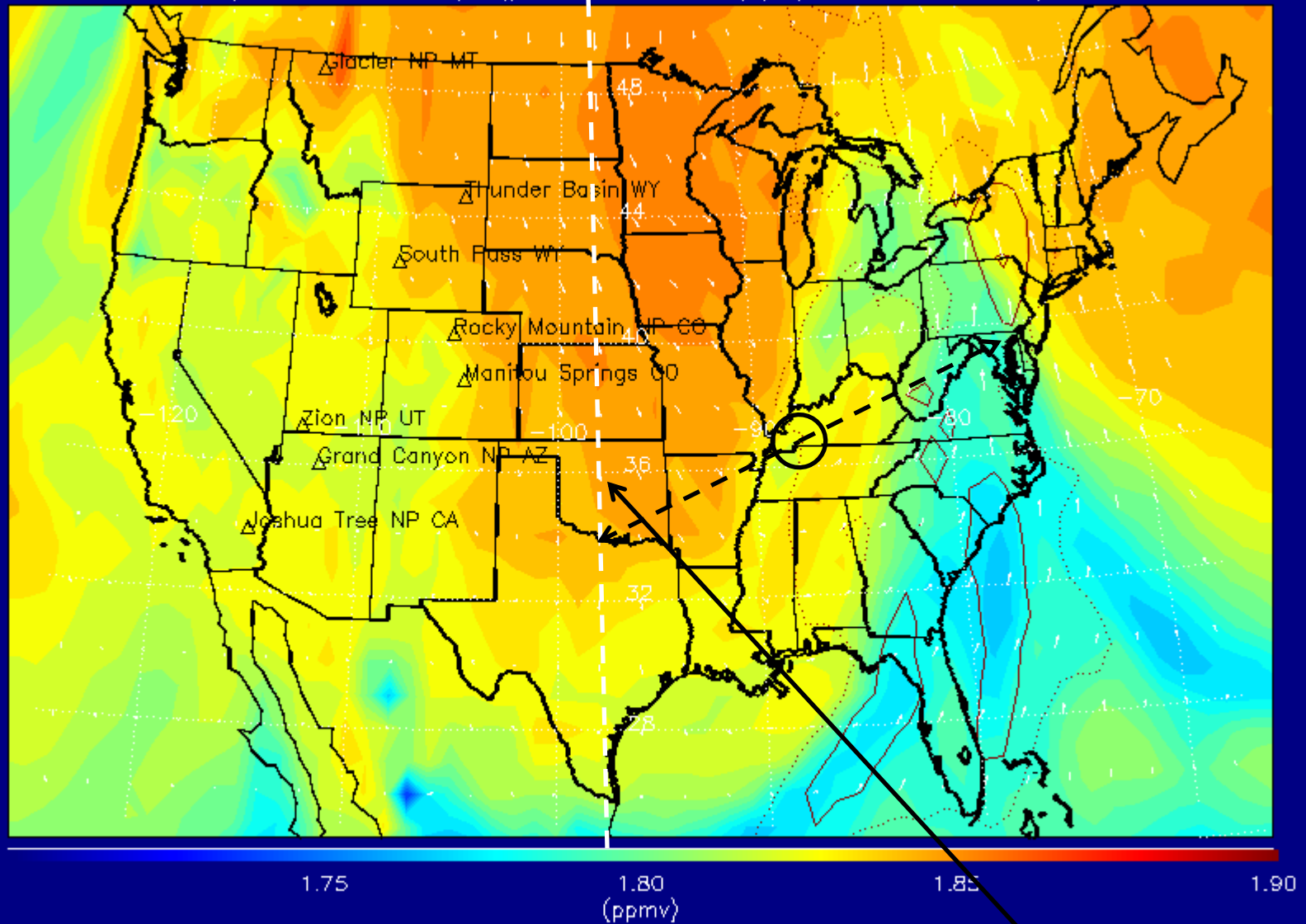
RAQMS₆ 54hr Fx Initialized 12Z 20150418

Cushing Oklahoma on western edge of swath

Approximate swath width

01km AGL CH4 18Z 20150420

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPCP=0.217163 mm/hr

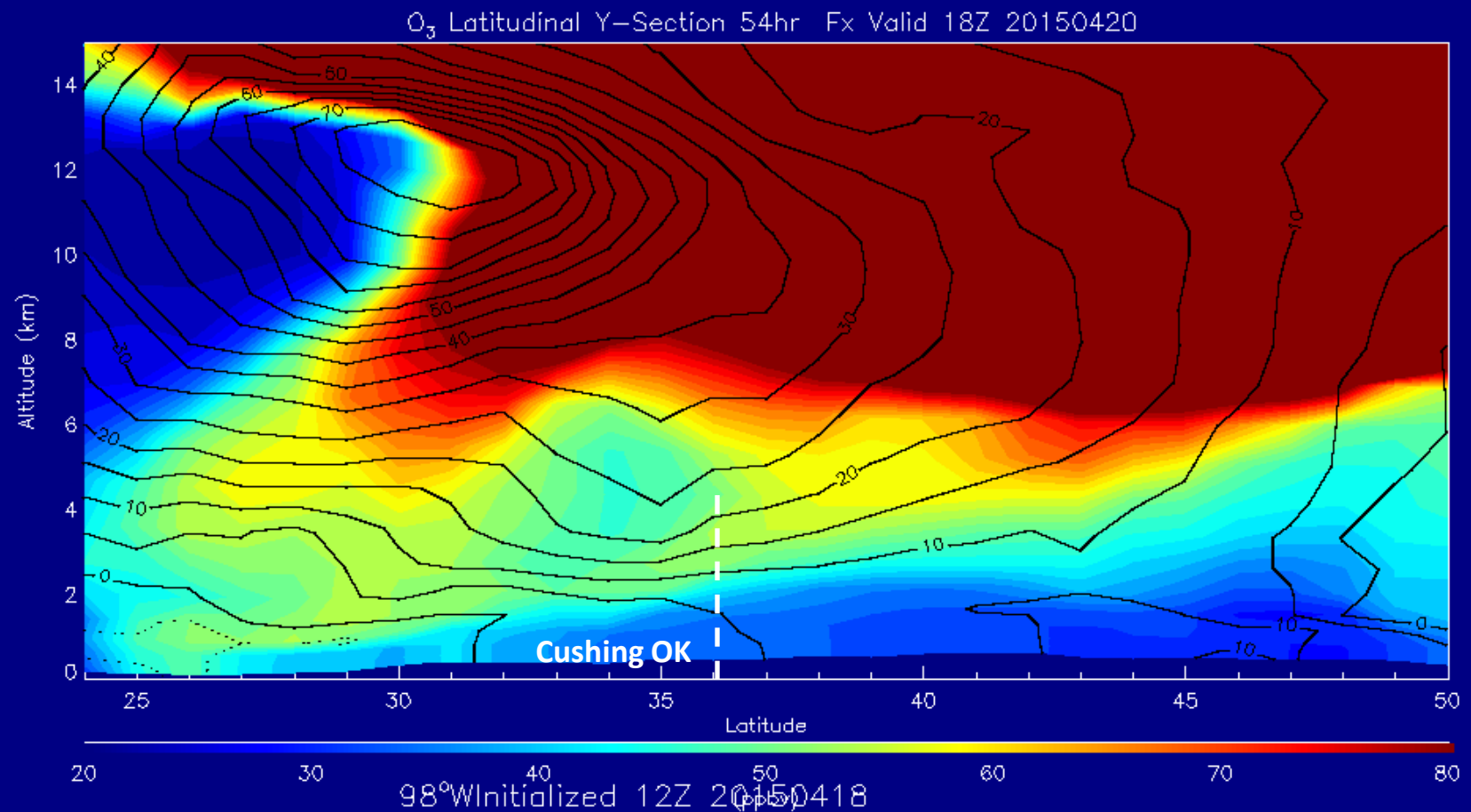


RAQMS₆ 54hr Fx Initialized 12Z 20150418

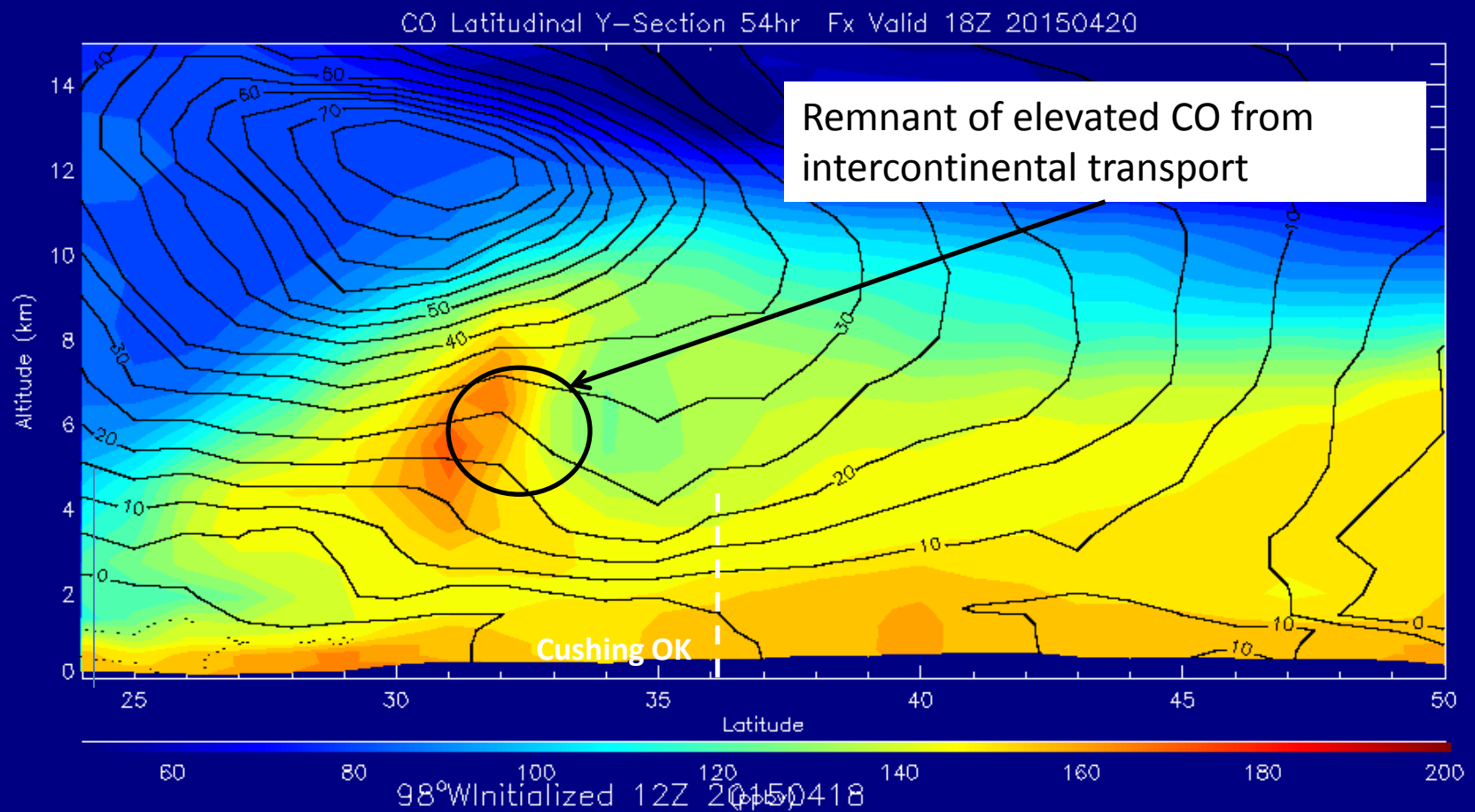
Oklahoma on western edge of swath

RAQMS surface CH4 constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

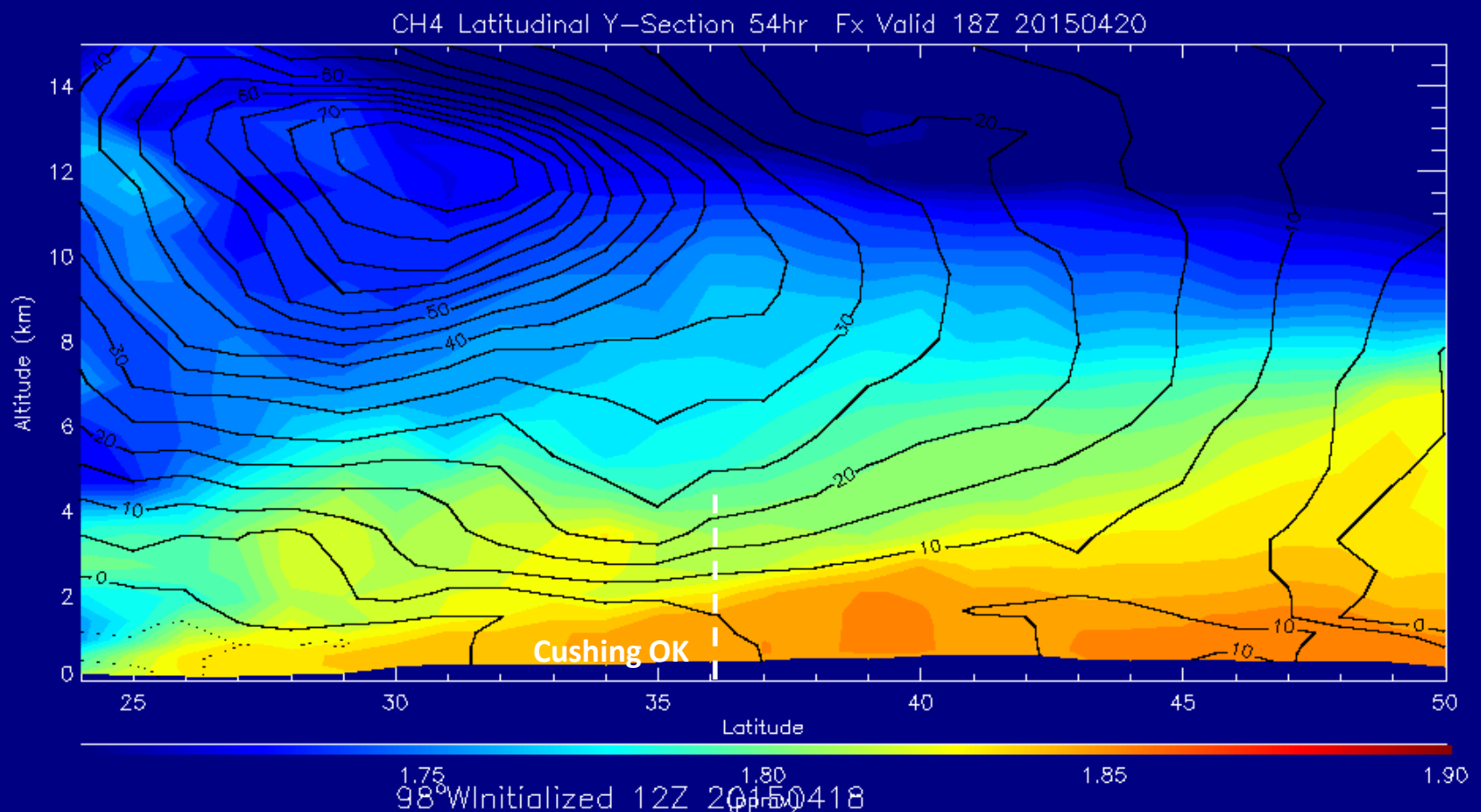
RAQMS 54hr FX O3 Cross-section at 98W (Oklahoma)



RAQMS 54hr FX CO Cross-section at 98W (Oklahoma)



RAQMS 54hr FX CH₄ Cross-section at 98W (Oklahoma)



RAQMS surface CH₄ constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias